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MISSOURI ELECTRIC WORKS PUBLIC MEETING

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4

SEPTEMBER 8, 2005

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Place: Drury Lodge

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Cape Girardeau, Missouri

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Reporter: Erihia Davis, CCR

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SUPERFUND RECORDS

1 MS. FRANCE-ISETTS: Hello. My name is
2 Pauletta France-Isetts. I want to thank everyone for
3 coming out tonight. And I want to apologize for our
4 technical difficulties. I'm not an IT person.
5 Hopefully, I am a fairly competent engineer.

6 We are here tonight to talk about the
7 proposed plan for the Missouri Electric Works Superfund
8 site. Specifically, this is for operable unit No. 2,
9 which is for groundwater. We were here several years
10 ago for operable unit No. 1, which was the soil work.
11 Tonight, we have Don Van Dyke with the state of Missouri
12 with us. This is David Hoefer. He's the attorney on
13 the site for EPA. And Pam Samek is our community
14 involvement coordinator, at least for tonight. She,
15 also, actually works for me in the Superfund. Our
16 coordinator that was supposed to be here today had a
17 death in her family. Thanks to Pam for pitching in for
18 us. As indicated, we are Environmental Protection
19 Agency, Region 7, out of Kansas City.

20 So this is the public meeting. This public
21 meeting is required under the National Contingency Plan
22 to make sure that the public gets an opportunity to hear
23 what we propose to do. We, being an overall umbrella
24 with the state of Missouri and EPA, and to take any
25 comments that you have. If you want to submit your

1 comments later in writing, that's fine, too. We'll have
2 that information at the conclusion of the meeting.

3 The purpose of the meeting is to talk to you
4 guys about proposed alternatives that have been
5 identified in the proposed plan as our preferred
6 alternatives that the proposed plan was made available
7 to the public on August -- well, the comment period
8 started the 21st. It was in the library after the 22nd.
9 So that proposed plan identifies the preferred
10 alternatives that we would use to address -- that we
11 proposed to address groundwater contamination.

12 I don't know if you can see this very well
13 or not. This is, basically, the Missouri Electric Works
14 site. This is the property that was owned by Missouri
15 Electric Works, and we have a line out through here that
16 goes out into the wetland area south of the MEW property
17 where groundwater contamination has come to exist.
18 Okay?

19 The Missouri Electric Works site was listed
20 on the National Priorities List in February of 1990. We
21 had our first Record of Decision for soils operable unit
22 No. 1, in September of 1990. And basically, that
23 decision document said that we would thermally treat the
24 contaminated soils. They were PCB contaminated. At
25 that time, we were going to look at treating some

1 groundwater, but it was relatively shallow in the upper
2 60 feet or so.

3 And what happened was that subsequent to
4 that decision, some additional investigation was
5 performed. We found that the groundwater contamination
6 was much deeper than we had anticipated. And so when we
7 negotiated the consent decree with the former customers
8 of Missouri Electric Works, they agreed to perform the
9 soil remedial action, which was thermally treat the
10 soils, and then to do a remedial investigation
11 feasibility study, RIFS, for the groundwater. And
12 that's what we're presenting the results of tonight.

13 This soil remedial action began in June of
14 1999 and ran through July of 2000. There was a big unit
15 that thermally desorbed the PCBs from the soil there.
16 And I have a few pictures of that action. That was the
17 stack. We had soil excavated and ready to treat. And
18 after they treated them, they put them in 600-ton piles,
19 tested and make sure they met the remedial action
20 objectives. And then they were used for backfill on the
21 site. Some more pictures of the stockpiles.

22 When they were doing the evacuation for --
23 the remedial action of the soils, we had our unit here,
24 and they encountered a trench, basically, of
25 contaminated soil. It was probably an old drainage

1 feature that was filled in, not filled in real well and
2 the materials that were spilled or dumped at the
3 Missouri Electric Works site flows through this trench.
4 And so the steering community, the former customers,
5 actually excavated to a depth of 27 feet to get those
6 contaminants there. And they went ahead -- the Record
7 of Decision indicated that they should clean to ten
8 parts per million to a depth of four feet and a hundred
9 parts per million PCB below a depth of four feet. But
10 what they opted to do was clean to ten parts per million
11 to that entire depth. So we have, basically, a site
12 that has no need for institutional controls to protect
13 anybody.

14 And if you guys have questions while I'm
15 talking, go ahead and raise your hand, and we'll just
16 talk about them as we go through.

17 You can't see real well, but there is a
18 discolored trench here, and that was very highly
19 contaminated. This is what the site looked like after
20 we got through with the remedial action and vegetation
21 was reestablished. This is on the east side. There was
22 a -- there still is a large gully there and a lot of
23 work had to be done on this because it continues to
24 erode.

25 In addition, just as a side note, government

1 regulations hit government people as well. When we were
2 treating the soil, there were a pair of redtail hawks
3 moved in next to the incinerator while we were
4 operating. And so we get ready and we were going to
5 take the soil down to ten parts per million and we
6 noticed the hawks. Well, they had had babies,
7 fledglings. Well, under the federal law, those birds
8 are protected. And so if we took down their tree, we
9 had to get the babies out, take them some place where
10 they could be raised without unduly imprinting them and
11 then release them back to the wild. So what we opted to
12 do, and it was a cooperative decision, was we went back
13 and we sampled around all these trees and where the soil
14 levels were within those limits that we could leave, we
15 left the trees. So we left habitat for the birds. And
16 I was out there today and the nest was still in the
17 tree.

18 Okay. After the Record of Decision in 1990,
19 I talked about it a little bit earlier, the steering
20 community, the former customers, came to the EPA and the
21 State of Missouri and said, we really think this
22 confining layer at depth we'd like to do some additional
23 investigation into the groundwater so that we can prove
24 to you that there's a confining layer there and then we
25 wouldn't have to pump it and treat. We said that that

1 sounds reasonable.

2 Well, what happened was that they started
3 the investigation in 1991 and they put the pilot -- what
4 they called the pilot hole, the first hole, down -- to
5 about 200 feet -- and Warren, if I get it wrong, tell
6 me. He represents the steering community and the former
7 customers -- and the rock was solid. 200 feet. We had
8 a nice core. We had samples of all of the rock,
9 six-inch cylindrical samples of the rock. A really nice
10 core. It looked like they had proved their point. They
11 moved over about ten feet to put the actual well in, it
12 hit a void at 110 feet. There was mud in it, had PCBs
13 in it. They went down like 215 feet, there was another
14 void, about five or six feet thick, also mud filled,
15 also PCBs. Went down to 300 and something, another
16 void.

17 Now, each time they went down -- actually,
18 they were -- fortunately, they started out with a big
19 hole. So each time when they hit a void, they stopped,
20 they cased -- they seated a casing in, they grouted all
21 the way back through it and then they went back down to
22 drill it out. So they made every effort that they could
23 to keep from cross contaminating -- carrying the
24 contamination down. What eventually happened was they
25 had the three solution features that were encountered

1 and then they went down to 405 feet and left the site
2 for the 4th of July weekend. They came back and the
3 water had filled in the hole from the depth to about
4 within about a hundred feet of the surface. They
5 sampled that, and again, came back with PCBs in the
6 water.

7 At that point, we were negotiating with this
8 steering committee for the action that was to be done.
9 There were too many unknowns for them to be able to say
10 that they would take care of the groundwater at that
11 point in time. They needed more information. So the
12 decision was made that the consent decree would require
13 them to address the soil contamination and perform this
14 further investigation of the groundwater. We got hung
15 up a little bit because we had to go to the 8th Circuit
16 Court of Appeals to comply with the consent decree. And
17 that's part of the reason that it has actually taken so
18 long, because the consent decree was actually negotiated
19 in 1991.

20 CITIZEN: You mean it's been in the courts
21 since 1999?

22 MS. FRANCE-ISETTS: It was in the courts
23 from 1992 through 1998.

24 CITIZEN: What is the 8th District?

25 MS. FRANCE-ISETTS: The 8th District Court

1 is the Court of Appeals. It is in St. Louis. We had a
2 little bit of a lapse at the federal district court
3 level and then we had -- it was contested twice.

4 MR. HOEFER: At the Federal District, you
5 enter the consent decree, you have to lodge it and then
6 we have to get it entered by the court. And then
7 there's a group of parties who attempted to intervene in
8 that action. The district court denied the
9 intervention, and appealed to the 8th Circuit Court of
10 Appeals. They prevailed at the 8th Circuit, so we had
11 to go back to the district court and litigate, do
12 discovery and litigate certain aspects of the case. And
13 then the court, once again, reentered the consent
14 decree, and that same group of parties that appealed
15 that entry to the 8th Circuit Court of Appeals on a
16 second occasion. That took, like, six years of the
17 appeals. And the 8th Circuit eventually ruled in our
18 favor, and it approved the entry of the dissent degree.

19 CITIZEN: Who are the parties that were
20 appealing?

21 MR. HOEFER: They were potentially liable
22 parties who we had identified who we had encouraged to
23 negotiate with us but did not participate in the consent
24 decree that we had. Off the top of my head, I couldn't
25 tell you who they are individually, but they were former

1 customers of the site.

2 CITIZEN: Okay. Thank you.

3 MS. FRANCE-ISETTS: And part of the
4 provisions of the consent decree was that we would do --
5 that the soil remedial action would take place prior to
6 the groundwater investigation occurring. And the
7 rationale between -- that was because of all the
8 excavation that we had to do to dig up the soils, we
9 didn't want to put in very expensive monitoring wells
10 and take a chance of them getting damaged.

11 So the soil remedial actions were completed
12 in July of 2000. The steering committee had another
13 contractor on board to start doing some of the field
14 reconnaissance and mapping. We were pretty sure that we
15 had what is known as a karst situation here.
16 Geologically, it is the solution features in limestone
17 and bedrock that can be eroded by the acidic waters.
18 And so they wanted to look at that to see if they could
19 try to do some mapping. They also wanted to take a
20 couple of years to see what would happen to the
21 groundwater after the source was removed. Because,
22 basically, what happens during the soil remedial action
23 is all the source materials, the PCBs in the soil, were
24 removed and destroyed.

25 So they did the reconnaissance, then they

1 came in with some nonintrusive testing to try to get an
2 idea where bedrock was and those types of things. They
3 installed 16 new wells and quite a few borings to kind
4 of sight where those wells would be. And then starting
5 in 2001, they did quarterly analysis of the wells. In
6 other words, they went out every quarter and sampled all
7 the wells, and they analyzed the samples they obtained
8 to find out what contaminants that they had.

9 And you guys will have trouble seeing this.
10 These are the monitoring well locations. And basically,
11 this is Wilson Road right here, okay? And we have a
12 cluster of wells right here. Those wells were wells 3,
13 5, 11 and then just slightly south of that is 12. These
14 are the wells that have the highest contamination in
15 them. And interestingly enough, when you look at the
16 contamination that was dug out in that old drainage
17 feature, it goes -- it looks like it ended right here.
18 It looks like there was a feature there, probably a
19 collapse of some sort, maybe a sink hole where it aided
20 materials getting down into the groundwater and into the
21 rock.

22 What we've found or what was found at the
23 site is that we have two groundwater regimes. We have
24 one that is in the bedrock up on where the Missouri
25 Works Site property is. And then to the south,

1 southeast where the wetland area is, there is another
2 regime. And basically, that wetland is actually over an
3 alluvium or sandy material, probably an old river
4 channel, water channel, something. We're not sure
5 exactly what it is, but we know it is sandy. So we have
6 the groundwater up here in the bedrock that's flowing
7 down and exiting into the alluvium, okay? So actually,
8 the two regimes we are going to have to address. When
9 we go through all this, we're going to have two
10 preferred alternatives. Trying to give you an idea of
11 which one is where. This is the bedrock wells,
12 groundwater, this is your wetland or your alluvium,
13 okay?

14 I don't know if you can see this very well,
15 but these are the fracture patterns. You've probably
16 seen them, you live around here, it's in all the roads
17 that you see them. They're the solution features that
18 you have where they're clay filled. Sometimes they've
19 been eroded out. What you have are these -- they extend
20 below the ground surface where you can't see them. And
21 what they found when they looked at the core -- this is
22 actually one of the cores here -- you have them about 25
23 foot centers to a depth of about 100, 150 feet and then
24 the spacing is wider from about 150 feet to 300 feet,
25 something like that. And then below that it's another

1 150 feet before you have one. And the ones at depth
2 that are very deep aren't very wide. They're just like
3 hair line cracks. That's how the contaminant is
4 transported to depth. It flows through these
5 preferential pathways.

6 This is my attempt to explain karst. This
7 is your bedrock and karst happens with differential
8 weathering. And then at times, you'll also get erosion
9 along the seams. You might have a complete area that's
10 eroded, solutioned out. And so as groundwater flows
11 through the rocks, water will flow along the path of
12 least resistance. So if there's an opening, that's
13 where it's going to go.

14 This is from remedial investigation that is
15 prepared for the site. And up here is the bedrock and
16 then you have this alluvium that's been -- that's here.
17 So what you have is the water is coming down through
18 here and then going into here. Based on our
19 investigation information, it really appears that we
20 have an upward gradient down here so everything is
21 really being contained or appears to be being contained
22 in that alluvium. There's a -- quite a lot of
23 contaminants in the bedrock groundwater. There's 1, 1
24 Trichloroethane, which is 1, 1, 1 TCA; Trichloroethane,
25 TCE; Tetrachlorethene, PCE; 1, 1 Dichloroethane, which

1 is 1, 1, TCE; 1, 1, Dichloroethane, which is a 1, 1 DCE;
2 and 1, 2, Dichloroethane, you have some benzene. We
3 have some chlorobenzene. And then we have 1, 2, 4
4 Trichlorobenzene; 1, 2 Dichlorobenzene; 1, 3,
5 Dichlorobenzene; 1, 4 Dichlorobenzene, and then we have
6 some PCBs that are in the unfiltered water.

7 PCBs adsorb, stick to soil and organic
8 matter. So in water samples that haven't been filtered
9 to filter the soil particles out, we are finding PCBs.

10 CITIZEN: We've never heard that the PCBs
11 that are used -- I don't know any of that terminology --
12 are carcinogenic or whatever you call it, but we've
13 never heard that that was actually harmful from when we
14 talked about with the environmental protection in
15 Kansas. They would never say PCBs are carcinogenic or
16 harmful or something like that. They might be. They
17 kept getting a --

18 MS. FRANCE-ISETT: Well, they are a
19 probable -- that's -- and they are a probable human
20 carcinogen. They are a probable human carcinogen.
21 They're classified as a B2 carcinogen. We don't have
22 actual studies on humans that says a human that is
23 exposed to PCBs will get cancer. But we have a lot of
24 studies on lab animals when they're exposed they get
25 cancers, okay? There are some other affects of PCBs

1 that are noncarcinogenic. There's more data coming out
2 all of the time on the immune system and reproduction
3 and this sort of thing. Those are still really
4 preliminary. But we do know enough to think that it was
5 a threat, potential threat to the environment. That's
6 why we had the former customers clean up the soil and
7 why we were looking to someone, probably former
8 customers again, to do the work for the groundwater.

9 CITIZEN: I think the original was, what,
10 3.2 million dollars? I don't know what it is now. I'm
11 not one of the former customers, but --

12 MS. FRANCE-ISETTTS: I don't remember how
13 much was spent.

14 MR. HOEFER: On the soil? I think it was
15 about seven million.

16 CITIZEN: On just the soil? Or for the
17 cleanup?

18 MS. FRANCE-ISETTTS: On just the soil. And
19 they've probably spent another million or two, I'd
20 guess, on this investigation of the groundwater.

21 The maximum contaminant level that has been
22 established for PCBs in water is five parts per -- point
23 five parts per billion. We have more than that. Okay?

24 CITIZEN: That's one of my questions. Are
25 you saying that most of the contaminants that you're --

1 looking down I think the southern expressway, that road,
2 nothing goes beyond? Is it all in that wetland area
3 down there?

4 MS. FRANCE-ISETTTS: That's what the
5 information that we have appears, that they come off the
6 hill into the wetlands, and it's basically contained
7 there. And we will be proposing things to be done here
8 tonight that will, if not remediate the threat will at
9 least make sure that no humans are exposed.

10 MR. VAN DYKE: I think maybe you need to
11 explain what contaminants are seen onsite versus as
12 opposed to what we're seeing --

13 MS. FRANCE-ISETTTS: This is just bedrock,
14 okay? And I'll have another slide when we get to --

15 MR. VAN DYKE: You need to understand that
16 the bedrock -- this is the contamination that is in the
17 rock below the physical MEW property. That is not what
18 we're seeing offsite. It's what went on down into those
19 fractures. And as far as we can tell with all the
20 investigation that we've done, we don't see a majority
21 of that contamination leaving the site. It's caught in
22 those trenches.

23 CITIZEN NO. 2: I have a question. Is there
24 any way to test a private well that is south of there?

25 MS. FRANCE-ISETTTS: I think we can test the

1 wells.

2 CITIZEN NO. 2: Because I have a well for my
3 home and it's 570 feet deep and it's south of --

4 MS. FRANCE-ISETTS: How far south?

5 CITIZEN NO. 2: About a mile where the
6 Southeast Stone Company is.

7 MR. HOEFER: Don, is that something the
8 groundwater protection people would do?

9 MR. VAN DYKE: It's something that -- we can
10 do that insofar as the department of health could do it
11 or anytime that I'm down here I can go ahead and collect
12 the sample. That's not a major complex issue. If you
13 want your well sampled, we can handle it.

14 MS. FRANCE-ISETTS: We did a well survey
15 back in '88, '89, '90, back in there trying to identify
16 if there was any groundwater use in the area. We did
17 not find any at the time. So I'm a little bit surprised
18 that we have a well, you know, at that depth that close
19 to the site that is being used.

20 CITIZEN NO. 2: I think another house still
21 up the road has a well.

22 MR. HOEFER: If you want to leave your
23 information, your address, name and so forth, we can
24 talk to the State and see if who can sample it and
25 whether we can.

1 CITIZEN NO. 2: How far did you go sampling
2 the wells from the site?

3 MS. FRANCE-ISETTS: Well, what we did is we
4 ran what we call a survey trying to identify -- I think
5 it was within a two to three mile radius of the site
6 whether there was any groundwater wells in use for human
7 consumption. And my recollection is that the only well
8 that we actually found was at that point in time they
9 had one onsite. MEW had a well onsite they were using
10 for their employees. And we didn't find any others. So
11 we assumed, based on those surveys -- because we mailed
12 them out to everybody, and we did some door to door
13 knocking, you know, canvassing. And so based on that,
14 we thought everybody was on city water and had no human
15 consumption going on.

16 CITIZEN NO. 3: Were there any health
17 problems associated with the employees who used the
18 water from the wells?

19 MS. FRANCE-ISETTS: Not associated with the
20 water. That well, actually -- it does have some TCE in
21 it, but it's not above the maximum contaminant level.
22 The health problems that we saw in some of the employees
23 had more to do with them being exposed to the
24 Chlorobenzene and the PCB in the oil from the
25 transformers. Because they had opened these

1 transformers to get to the copper and tear the wrappings
2 out of those and there was a lot of chlorobenzenes and
3 PCBs in there. And we had at least one individual that
4 had a dermatitis type problem called chloracne that we
5 think was a result from that. But again, there were a
6 lot of other things that feed into that. But we didn't
7 have any sort of exposures that we know of from the
8 groundwater.

9 CITIZEN NO. 3: So the well on site was not
10 contaminated?

11 MS. FRANCE-ISETTS: Like I said, it has a
12 little bit of TCE in it. It has no PCB, but you have to
13 remember --

14 CITIZEN NO. 3: Not above drinking water
15 standards.

16 MS. FRANCE-ISETTS: Not above drinking water
17 standards. The well onsite sits to the northwest of
18 where that cluster of wells are and the ground slopes in
19 that direction, hydraulic gradients are in that
20 direction. So the materials that were spilled and/or
21 dumped on the ground flowed away from the building,
22 okay? They didn't -- so we did test and Mr. Giles
23 tested that well several times for PCBs. And I don't
24 know that he tested for any of the contaminants, but
25 those were never detected in that well. While the

1 employees were there, the well was sampled to make sure
2 it didn't have PCBs in that.

3 MR. VAN DYKE: Pauletta, if I can help you
4 out just a little bit. PCBs are contained within oil.
5 They are used as a fire retardant within the
6 transformers. And the fact that all the storage and
7 everything that was done was down gradient from where
8 that well was, PCBs being associated with the oil, the
9 oil is not going to flow very far uphill. I mean,
10 you've got absorbant factors. But for the most part,
11 the oil is going to move away from where it was dumped
12 in a downgrading direction, and that well was
13 upgradient. So the likelihood of PCBs being in that
14 well would be miniscule, if any. And as it turns out
15 there were no PCBs. It was just Trichloroethene, and
16 that could have been done all over the site, because it
17 was used as a solvent.

18 MS. FRANCE-ISETTS: They used that to rinse
19 the transformer cans and other equipment.

20 In the alluvium or in the wetland area, we
21 have some TCE. We've detected some TCE at levels not
22 far above the drinking water standard. I think the
23 maximum is 16. The MCL is five. We have some DCA, DCE
24 and we do have some dichlorobenzene that's been
25 detected. But the majority -- we have five here, the

1 majority of the contaminants seem to be held, trapped in
2 the bedrock.

3 MR. MUELLER: We have basically a clean
4 circle of wells around one nest of wells where we have
5 what the chemicals that are concerned that we mentioned.
6 So we have one location out there where we have these
7 detects and the only chemical that was detected above
8 the drinking water standard was the TCE, and as she
9 said, it was not very much far over the drinking water
10 standard. Like what Don says, this study showed a
11 chemical -- most of the chemicals are onsite. What's
12 offsite is very small amount that's been found.

13 MS. FRANCE-ISETTS: As part of the remedial
14 investigation feasibility study, a human health risk
15 assessment was performed. And when we do that, they
16 look at incremental lifetime cancer risks, whether or
17 not those are increased. A hazard index whereby you
18 might get another illness or another condition as a
19 result of exposure other than cancer. Our exposure
20 scenarios were for onsite worker, an offsite
21 construction worker, an offsite resident and trespasser.
22 In this scenario, when we talk about this offsite means
23 wetland area, okay? So if we have somebody build a
24 house on the wetlands or if we have somebody -- a
25 construction worker that is installing utility trenches

1 or whatever in the wetland, that's what we're talking
2 about as being exposed.

3 CITIZEN NO. 2: Is that risk assessment
4 available?

5 MS. FRANCE-ISETTS: Actually, it is in your
6 library.

7 CITIZEN NO. 2: Maybe now. I can't get
8 anything out of the library. They've got the boxes set
9 in the corner, and I spent a beautiful afternoon going
10 through all them boxes.

11 MS. FRANCE-ISETTS: Do you have Adobe?

12 CITIZEN NO. 2: If it's on the net, I can
13 get it.

14 MS. FRANCE-ISETTS: I don't know if it's on
15 the net, but I'll be happy to send it to you.

16 CITIZEN: Okay. They are not very helpful
17 at the library.

18 MS. FRANCE-ISETTS: I did find
19 administrative record addendums this afternoon that I
20 went to look for, and I found it in the library. It's
21 on the bottom shelf on the west wall in the science
22 fiction.

23 CITIZEN NO. 2: Well, I found the 14 boxes.

24 MS. FRANCE-ISETTS: Well, they have it on
25 the shelf now.

1 CITIZEN: I asked about a risk assessment
2 and they --

3 MS. FRANCE-ISETTS: Yeah. They probably
4 would have a hard time getting that. But if you give me
5 your e-mail address and your thing, and I'll be happy to
6 send that to you. If you go on all the tables, they're
7 pretty voluminous.

8 Anyway, the incremental lifetime cancer
9 risk, or ILCR, for Superfund sites, if you have a chance
10 of getting -- contracting cancer that's greater than one
11 in ten thousand, that is an unacceptable risk. We would
12 like it to be one in a million, but there is this range.
13 And the hazard indexes is where we have formulas that we
14 calculate it, anything that is greater than one is an
15 unacceptable risk.

16 That said, when the risk assessment was
17 complete, the risk to an onsite worker was one in ten to
18 the minus 5th. It still falls within that range. The
19 offsite construction worker was five times ten to the
20 minus 7th. That's okay. That's acceptable. But we
21 have the offsite resident in the wetland area, adult to
22 child, they were ten to the minus third, which means one
23 in a thousand chance of contracting cancer. That's
24 unacceptable. And the trespasser was ten to the minus
25 eighth. Again, not bad. That's one in a hundred

1 million, I think. The hazard index for the onsite
2 worker, again, they need to be less than one for onsite
3 worker. It is 0.1. For the offsite construction worker
4 it was two, which is unacceptable. Offsite resident,
5 both adult and child, were greater than one, which were
6 unacceptable, and the trespasser had negative one risk.

7 Based on these results, which are
8 conservative, it was determined that there is an
9 unacceptable risk to human health and the environment
10 represented by the groundwater and that an action was to
11 be taken. There are remedial action objectives for
12 groundwater at the Missouri Electric Works Site. We
13 want to prevent exposure to the receptors, whether they
14 are construction workers, trespassers, whoever. We
15 don't want anybody using the groundwater that has been
16 designated at the site, because that's where the risk is
17 coming from, from the ingestion of the groundwater.

18 We want to assess and manage contaminated
19 groundwater. And what we would look at there is
20 probably ongoing sampling and monitoring. And for an
21 extended amount of time to make sure, one, it's going
22 away, hopefully; two, to make sure it's not going
23 someplace else we don't know about. Because as Warren
24 indicated, we have with the wells that are already in
25 place, we have clean wells that are surrounding the

1 wells that has contaminants in it in the wetland area.
2 If, during monitoring, we will find something in those
3 other wells -- if those clean wells would have a
4 contaminant show up, we would have to look at and maybe
5 increase the amount of sampling or whatever.

6 MR. MUELLER: The offsite risks that are
7 unacceptable, just to clarify that, there were all
8 associated with groundwater, either drinking the
9 groundwater or a construction worker that might be
10 involved in the -- and again, this is a conservative
11 assumption -- the construction worker was actually
12 digging into the water table and being exposed to the
13 groundwater for an extended period of time. So as far
14 anybody walking across the property, using the property
15 and whatever, there were no risks that were identified.
16 The significant risks we're talking about, again,
17 relating to the drinking water standards for the TCE
18 that were involved, the drinking water standards, the
19 people were drinking that or they were being exposed to
20 it for a long period of time. That's where the risk
21 comes in.

22 MS. FRANCE-ISETT: That's right. The risk
23 comes from drinking the water.

24 CITIZEN: I have a question. There is a
25 sign on the wetland area that the property is for sale,

1 number one. Number two, how do you build in a wetland
2 area?

3 MS. FRANCE-ISETTS: Years ago, they filled
4 it in.

5 CITIZEN: Right now if it's wetland area
6 with this --

7 MS. FRANCE-ISETTS: They have to apply for a
8 404 permit from the Corps of Engineers.

9 CITIZEN: It probably would be pretty hard
10 to get it, wouldn't it?

11 MR. HOEFER: Typically, yes. They would
12 have to do some other activity that would provide for
13 mitigation purposes in-kind wetlands.

14 CITIZENS: PCBs, there's no regeneration of
15 anything new? What you're trying to do capture is what
16 is in the bedrock and what has already gone down into
17 that lower area.

18 MS. FRANCE-ISETTS: This all goes back to
19 operations from 1954 to 1992.

20 Okay. There were two actions considered for
21 the fractured bedrock. One was no action. And the
22 reason that was considered is that we need to have that
23 as a baseline. And if there is no action, then the no
24 action scenario is what is used to run a risk
25 assessment. The second bedrock alternative, FB2, was a

1 limited action response. And that response, basically,
2 included institutional controls, which would be
3 restrictions on the property. And you know, the fact
4 that you couldn't put a well in to drink the water, and
5 making sure that everybody knew that there was a
6 groundwater problem at depth. In the event that
7 somebody would be able to get a well, you know, we had
8 institutional control, which is a provision for the well
9 head treatment. So in other words, that well would
10 be -- it would have a treatment system put on it, so
11 that whoever drank the water from that well would have
12 water that met all of the drinking water standards.

13 The third part of that is long-term
14 monitoring, groundwater monitoring. The alluvium
15 alternatives, we actually looked at five. The first was
16 no action. The second was, again, limited action, very
17 similar to the protection of bedrock, institutional
18 controls, well head treatment, long-term groundwater
19 monitoring. The third alluvium was AL3, which was
20 collection. Basically, everything in No. 2, the well
21 head treatment, the institutional controls, the
22 long-term monitoring, but it also included collecting --
23 targeted collection and treatment of some groundwater.

24 The fourth one, again, included everything
25 from AL2, your second one was the institutional

1 controls, well head treatment and long-term monitoring
2 with the possible addition of an agent to enhance
3 biodegradation of the chemicals in the groundwater
4 called enhanced biodegradation. And the idea we would
5 have some injection points out there in the wetlands to
6 try to target where the water is in on the wetlands is
7 contaminated.

8 The fifth one is monitoring natural
9 attenuation, and the only real difference between four
10 and five is that with number five you don't have to
11 inject the agents. But what you have to do, in order to
12 select number five, is show that we have or that there
13 are -- the conditions are right in the wetland water,
14 groundwater, such that nature is destroying the
15 chemicals on its own, okay?

16 So under the National Contingency Plan, EPA
17 or the state, has to evaluate nine criteria. To look at
18 each remedial alternate and evaluates it against nine
19 criteria. They are broken up into three groups. The
20 first group is the threshold criteria and the second
21 group is a balancing criteria and the third group are
22 the modifying criteria. The threshold criteria, you
23 have to meet these two. One has to be protective of
24 human health in the environment, and two, it has to meet
25 ARARs -- applicable compliance with --

1 WARREN: ARARs are the applicable or
2 relevant and appropriate regulations.

3 MS. FRANCE-ISETTS: I forgot my acronyms.
4 So in the event -- so that is what these are. That's
5 what you've got to -- the balancing criteria include
6 long-term effectiveness, short-term effectiveness,
7 implementability, cost and whether or not you can reduce
8 the toxicity, volume or mobility of the contaminant.
9 You don't have to meet those, but the more of those that
10 you can meet, the better off you are, the more
11 protective it is. And the modifying criteria are State
12 and community acceptance.

13 And Don and ND&R have been working with us
14 all the way along here so, hopefully, we're not giving
15 them anything that is a real shock.

16 In the fractured bedrock, EPA is proposing
17 that we use FB2, which is the limited action. We
18 include institutional controls, well head treatment,
19 long-term monitoring. It meets -- it is protective of
20 human health in the environment. However, it does not
21 meet the applicable relevant or appropriate
22 requirements. It does not meet the ARAR requirement.
23 We are given in most situations where, basically, it's
24 impossible to do a cleanup to achieve the standards that
25 have been set forth to put -- to issue a technical and

1 practicability waiver.

2 The technical impracticability report has
3 been prepared. As an example in the guidance, karst
4 bedrock, fractured bedrock is a reason for issuing a
5 technical and practicability. Because there are so many
6 paths in which the contaminants could have flowed
7 through or migrated through the bedrock, it's impossible
8 for anyone to clean them up. I mean, we know we have
9 contaminants at 300 feet. It's really impractical to
10 ask somebody to go in and take rock out. And besides
11 that, we don't know, it might make it worse. As you
12 drill and you fracture the rock, additionally, you might
13 make the problem worse. So it's better in this case to
14 monitor it, to make sure that it's not going anywhere
15 that we don't know about and to see what's happened with
16 the concentrations.

17 It's effective. FB2, limited action is
18 effective in the long term. It doesn't reduce the
19 toxicity mobility or volume of the contaminants. It's
20 effective in the short term. It's easy to implement.
21 We've got most of the stuff in place already for that.
22 And the cost for this over a 30-year period is estimated
23 to be \$2.2 million.

24 In alluvium, we are proposing at this point
25 in time AL4, which is enhanced biodegradation, but I

1 want to caveat that in that we are -- and I say "we" and
2 it's actually the steering committee, the former
3 customers, are actively going out and continuing to
4 monitor these wells on a quarterly basis to see whether
5 or not we have the data, the conditions in the
6 groundwater that would mean that monitored natural
7 attenuation is occurring. They've already done one
8 round of sampling. They'll do another round of sampling
9 next week and then another one in December and one in
10 March. At the end of that time, we should have enough
11 data to determine whether or not conditions are right
12 for monitored natural attenuation. We're required to
13 have a certain amount of data to do that, in order to
14 select monitored natural attenuation.

15 So tonight, we're telling you that our first
16 choice is AL4, which is an enhanced biodegradation.
17 However, if data is available that suggests that
18 conditions are right to monitored natural attenuation to
19 occur, that would be our alternative response action.
20 Because it doesn't make a whole lot of sense to inject
21 something in the ground if the groundwater has already
22 taking care of itself.

23 When you evaluate AL4, the enhanced
24 biodegradation, it's protective. It will meet the
25 ARARs. It's effective in the long-term. It reduces the

1 toxicity, volume and mobility of the contaminants. The
2 short-term effectiveness is pretty good. There is some
3 risk of possibility for those folks who are actually
4 injecting material in the ground. It's easy to
5 implement. The cost is \$4.8 million.

6 CITIZEN: Is that over a certain number of
7 years?

8 MS. FRANCE-ISETTS: Again, over 30 years.
9 Everything is over 30 years. To be quite honest, I
10 doubt if we're done in 30 years. A lot of these
11 chemicals -- at least in the bedrock, I don't think
12 we'll be done in 30 years.

13 CITIZEN: The initial cost was 7.0 million
14 to take the contaminated soil, plus another million for
15 this. Have the providers or the customers, have they
16 paid what --

17 MS. FRANCE-ISETTS: So far, they have paid
18 for all the work that has been done.

19 MR. HOEFER: They did the work. They
20 entered into a settlement with us wherein they agreed to
21 perform the work. It's more complicated than that, but
22 yes --

23 CITIZEN: How do you ask them to pay for
24 this? Do you say 30 years you pay it so much a year?

25 MR. HOEFER: We asked them to engage in

1 negotiations with us to settle the liability with us,
2 and to agree to perform this work. And so they would be
3 doing this work over that period of time.

4 CITIZEN: They would fund their own way and
5 contractor.

6 MR. HOEFER: Yeah. We would provide
7 oversight. We would have one of our contractors
8 watching them to make sure they do it appropriately.

9 MS. FRANCE-ISETT: As I indicated before,
10 we do have an alternate for the alluvium, which is AL5,
11 which is national process of gathering that data and
12 evaluating it. And if it meets all of the requirements
13 set forth in the guidance, then what we will propose or
14 what we will implement is monitored natural attenuation
15 rather than enhanced biodegradation. When you do the
16 evaluation of monitored natural attenuation, it's
17 protective of human health and the environment. It
18 meets ARARs. It's effective long term. It does reduce
19 the toxicity of the volume of the contaminants. It's
20 effective in the short term. It's easy to implement.
21 Again, we have most of the requirements already put
22 forth and constructed for this process. Cost is about
23 \$3.9 million. That's the estimate. Again, over 30
24 years.

25 We want, again, to encourage all of you to

1 give us any feedback that you have concerning what we're
2 proposing. Your input is part of the evaluation
3 process, part of the modifying criteria. If it's
4 unacceptable, then we have to modify it or give you a
5 good reason why we can't.

6 The comment period, again, started August
7 21st. It will conclude September 19th. We will take
8 any comments postmarked by September 19th. All
9 comments, questions, concerns, will be addressed in a
10 responsiveness summary that becomes part of the record
11 of decision that's issued for this operable unit, and so
12 it would be part of that document. Written comments
13 should be submitted to Dianna Whitaker, D-i-a-n-n-a,
14 W-h-i-t-a-k-e-r. I've leave this up here. It's on the
15 sheet, too. She also has an e-mail. So if you want to
16 submit your comments via e-mail, please feel free to do
17 that. Any other questions? That concludes what I have.

18 MR. VAN DYKE: If I can give you a little
19 bit of perspective on the state's viewpoint. We worked
20 closely with EPA on this project. I mean, there have
21 been rocks to climb over and at times it's not been the
22 smoothest, but we agree the soil cleanup has been
23 achieved. The contamination that is within the bedrock,
24 the stuff that is physically below the MEW property, we
25 agree it's technically impracticable to treat that

1 stuff. If there was sufficient groundwater flow to
2 where we could pump the stuff out of the ground, break
3 it up, run it through a treatment system and discharge
4 it from the municipal waste water treatment plan, we
5 would do that. You can bail these wells dry in five
6 minutes. They do not produce water. So there's no way
7 to do a pumping treatment.

8 We know based upon looking at the fracture
9 orientation going down to Lone Star and looking at their
10 rock cut at their quarry and then inputting that into a
11 model, using the MEW property, that, yes, we've got a
12 bunch of fractures in the swallow bedrocks, less
13 fractures in the intermediate bedrock and then very few
14 fractures in the deep bedrock. Those fractures
15 terminate and never actually make it down to what we
16 would call an aquifer, a groundwater producing formation
17 that is suitable for domestic use. It doesn't make it
18 there. So we don't see it going off site. We don't see
19 it going anywhere. It's in that rock. It's like a
20 sponge that has been squeezed to death and it can't go
21 anywhere. So we agree that the contamination that is
22 below the MEW property can stay there in perpetuity and
23 it's not going to go anywhere.

24 The alluvium, yeah, we've got another story
25 there. The contaminant levels are extremely low. We're

1 taking about TCE being the only contaminant of concern
2 that exceeds maximum contaminant level for drinking
3 water. 16 parts per billion being the highest level
4 that we saw. The drinking water standard being five.
5 The odds that natural attenuation is occurring out there
6 are, in my experience, with TCE, which I have quite a
7 bit of, unfortunately, I believe it's going to naturally
8 attenuate. There's no sense of us going out there right
9 now and dumping another chemical in the ground to try to
10 destroy that little bit of TCE that we're seeing out
11 there until we know and we've collected enough data to
12 determine that, yes, natural attenuation is occurring
13 and that is the remedy that we will select.

14 Natural attenuation is used at a lot of
15 Superfund sites. It's not anything new. The conditions
16 to support the natural attenuation is, in fact,
17 occurring. They have gotten a lot more stringent over
18 time with EPA giving out new guidance and stuff. If you
19 don't see this, the natural attenuation is occurring.
20 And that's why we need to collect this data from the
21 start of this alluvium groundwater treatment. Once we
22 have the data and the data says, yes, it's occurring,
23 we'll let natural attenuation do its thing. If the data
24 says, no, it's not occurring, then we'll go ahead and
25 use the alternative and pour biodegradation agents down

1 into the ground and actually destroy the TCE, and I've
2 done this at other sites also. It does work. But at
3 this point in time, those are the two best alternatives
4 that we have for this particular site, the bedrock and
5 the alluvium.

6 CITIZEN: I have a question. Who is the
7 one, two or three lead customers who you're negotiating
8 with, probably has the biggest cost factor? Ameren?

9 MS. FRANCE-ISETTS: Ameren.

10 MR. HOEFER: I assume Ameren.

11 CITIZEN: Are you doing most of the
12 negotiations with them?

13 MR. HOEFER: I mean, we had settled with
14 them several years ago for the soil contamination and
15 for investigating the groundwater. It was 179 parties
16 and quite a few parties represented. Union Electric
17 Ameren was one of the larger parties involved. But we
18 had a subset of those settling parties formed at the
19 steering committee and actually pushed this through to
20 get the work down. And Warren Mueller with Ameren was
21 one of the key people involved with that.

22 MS. FRANCE-ISETTS: And we had a lot of
23 smaller customers that cashed out early on, part of
24 those 100 and --

25 MR. HOEFER: Those parties just made a cash

1 contribution to the other parties and said, "We just want
2 to give you cash and we don't want to be involved with
3 it anymore."

4 MS. FRANCE-ISETTS: So we have some parties
5 that already paid for groundwater.

6 MR. HOEFER: We had some federal agencies
7 who were involved that provided us with money, other
8 agencies, defense agencies, and et cetera that
9 contributed to the cleanup.

10 CITIZEN: Do you have veto power over the
11 State Department of Natural Resources or how does that
12 work? I know you try to work together, but I mean, who
13 has the priority on that?

14 MS. FRANCE-ISETTS: We work together, even
15 if we have to slug it out, but we do. We don't issue
16 any sort of decision without them being on board and
17 agreeing.

18 MR. HOEFER: Technically, under the
19 Superfund, under the federal statute, we're the lead
20 agency. The State is the support agency. We work very
21 closely with the State. We work with DNR, with Missouri
22 Department of Health and et cetera. We have not had a
23 situation where we've disagreed and we've had to say
24 "This is what we're going to do and we don't care if you
25 come along with us or not." That's not the nature of

1 our relationship.

2 MR. VAN DYKE: The one instrument that the
3 State has is we have to concur by our state's programs
4 and our guidance and everything else. We have to concur
5 with what EPA decides is going to be done. EPA doesn't
6 just make that decision. They work with us to do that.
7 If, in fact, it comes down to the point where we totally
8 disagree and we look at EPA and say "Forget it, we will
9 not concur" and any liability from that point on falls
10 back on EPA because we do not approve it.

11 MR. HOEFER: We can proceed without them
12 concurring, but that is an unusual situation.

13 MS. FRANCE-ISETT: What do you mean
14 liability would fall back?

15 MR. VAN DYKE: If, in fact -- how to put
16 this in legal terms.

17 MR. HOEFER: He doesn't mean it in terms of
18 legal liability.

19 MR. VAN DYKE: Not in legal terms, but
20 insofar as should there be some contamination found in
21 the future that was not addressed because the remedy was
22 not something that the State agreed was sufficient to
23 protect human health in the environment and sometime
24 down the road new contamination is found that is
25 associated at that site, we would look at EPA.

1 CITIZEN: You're saying you wouldn't agree
2 because they might be more lenient than you would be?

3 MR. VAN DYKE: No, I'm not saying that we'd
4 be lenient.

5 MS. FRANCE-ISETTS: He's saying that he
6 might be lenient.

7 CITIZEN: In terms of liability, I mean, if
8 you say you're not agreeing with him.

9 MR. VAN DYKE: At this point in time, I've
10 only had one occasion where I didn't agree with EPA and
11 the situation ended up resolving itself. But for the
12 most part, we have a very good working relationship with
13 EPA and we maintain that and we hope it's going to
14 continue in the future.

15 MR. HOEFER: Usually, the science is very
16 compelling and EPA and the State have competent people,
17 et cetera, and they come to the same conclusion and I
18 think that happens at a lot of our sites.

19 MR. VAN DYKE: EPA has got its group of
20 gurus. The State has got its group and lots of times
21 they sit down -- they sit over in Kansas City and we sit
22 over in Jeff City and we sit there and discuss things,
23 and we come together and say, "Okay. Do where he agree
24 or do we disagree? And can we come to some kind of
25 common ground?" And we usually find the common ground.

1 CITIZEN: Okay. That educates. Thank you.

2 MS. FRANCE-ISETTS: Nathan, you came in
3 late. We didn't acknowledge you being here. This is
4 Nathan Cooper. You are a state representative.

5 MR. COOPER: Right. For city of Cape
6 Girardeau.

7 MS. FRANCE-ISETTS: Thank you for being
8 here. Any other questions? Again, I apologize that it
9 wasn't on the big screen.

10 MR. HOEFER: We will be around. If you have
11 any questions, we'll be around for a little while if
12 somebody wants to talk to us individually. We'll be
13 here for that. Again, you can -- if you want to make
14 any oral comments on the records, that's why we have a
15 transcriber here. We are required by law to have a
16 transcript of this. And you can make oral comments and
17 put them on the record. If you want to make written
18 comments, you can send them to us by the mail, by e-mail
19 and we're interested in community input. Otherwise, we
20 can adjourn this aspect of this meeting.

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2 STATE OF MISSOURI)
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5 I, ERIKIA DAVIS, Certified Court Reporter for the
6 State of Missouri at Large, do hereby certify that the
7 above and foregoing is a true, correct and complete
8 transcript of the meeting, taken at the time and place
and for the purpose set out in the caption hereof; that
said meeting was taken down in stenotype by me and
thereafter transcribed.

9 I further certify that I am neither attorney for, nor
10 counsel for, nor related to, nor employed by any of the
11 parties to the action in which this meeting is taken;
12 and further, that I am not a relative or employee of any
attorney or counsel employed by the parties hereto nor
financially interested in the action.

13 My commission expires June 7th, 2009.

14 Given under my hand and seal of office on this the
15 day of October 20th, 2005.

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17 ERIKIA DAVIS
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